

IN THE CLAIMS:

Please cancel claim 2 without prejudice, and amend the claims as follows:

1. (Previously Presented) A deposition method of forming a silicon inorganic insulating film on a substrate, comprising:

placing a substrate in a semiconductor manufacturing apparatus having parallel plate type electrodes; and

depositing a fluorine-containing silicon insulating film on the substrate by generating a plasma of a process gas containing SiH_4 , SiF_4 , and an oxygen source substance, wherein a flow rate ratio of said SiF_4 to said SiH_4 into the semiconductor manufacturing apparatus is larger than 1.

2. (Canceled)

3. (Currently Amended) The deposition method according to claim 1 wherein the RF power applied to said parallel plate type electrodes is 1000 Watts or more.

4. (Currently Amended) The deposition method according to claim 1 wherein the RF power applied to said parallel plate type electrodes is 1400 Watts or more.

5. (Previously Presented) The deposition method according to claim 1, wherein said oxygen source substance includes at least one substance of N_2O , NO , N_2O_3 , N_2O_5 , NO_3 , N_2O_4 and NO_2 .

6. (Previously Presented) The deposition method according to claim 1, wherein said oxygen source substance includes at least one substance of O_2 and O_3 .

7. (Previously Presented) The deposition method according to claim 1, wherein said oxygen source substance includes at least one substance of CO , CO_2 and H_2O .

8. (Currently Amended) The deposition method according to claim 1, wherein the RF power applied to said parallel plate type electrodes is at least 4 Watts/sccm of a total combined flow rate of the SiH_4 and SiF_4 .

9. (Canceled)

10. (Currently Amended) The deposition method according to claim 1, wherein the RF power applied to said parallel plate type electrodes is modulated with a single frequency.

11. (Original) The deposition method according to claim 1, wherein the pressure in said reaction chamber in said deposition step is not more than 666 Pa.

12. (Previously Presented) The deposition method according to claim 1, wherein the deposition temperature in said deposition step is not more than 480°C.

13. (Currently Amended) A method of manufacturing a semiconductor device having conductive portions of a damascene structure on a substrate, comprising:

depositing a fluorine-containing silicon insulating film on a substrate by generating a plasma of a process gas containing SiH_4 , SiF_4 , and an oxygen source substance, said process gas being introduced into the a chamber of the a semiconductor manufacturing apparatus having parallel plate type electrodes; and

forming said conductive portions of the damascene structure in said silicon insulating film.

14. (Previously Presented) The method according to claim 13 wherein the forming said conductive portions of the damascene structure comprises:

forming depressed portions in said silicon insulating film; and

forming conductive material in said depressed portions.

15. (Currently Amended) The method according to claim 13, wherein the RF

power applied to said parallel plate type electrodes is at least 1000 Watts.

16. (Currently Amended) The method according to claim 13, wherein the RF power applied to said parallel plate type electrodes is 1400 Watts or more.

17. (Currently Amended) The method according to claim 13, wherein the RF power applied to said parallel plate type electrodes is at least 4 Watts/sccm of a total combined flow rate of the SiH_4 and SiF_4 .

18. (Currently Amended) The method according to claim 13, wherein the a flow rate ratio of said SiF_4 to said SiH_4 into the chamber is larger than 1.

19-20. (Canceled)